

## Myrmecological Notes from Narvik, Northern Norway

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A visit of a few hours on August 19th, 1948 to Narvik during the VIII International Congress of Entomology visit to Lapland, gave me an opportunity to make some observations on the ants of the locality. Holgersen (1942), in his excellent account of the ants of Northern Norway, gives a single record for Narvik, namely *Formica rufa*, taken by Schneider in August 1879. Narvik is in the county of Nordland, which has been divided into four divisions, Narvik being in the Nnø division. The only other ant hitherto recorded from Nnø is *Leptothorax acervorum* from Slovaer, Folla, by Soot-Ryen (1924).

*Myrmica rubra* L. (= *ruginodis* Nyl.)

A number of nests were seen and all contained callows and larvae of all sizes. None of the nests contained either pupae or winged forms, yet at noon (all times G.M.T.) a single male was taken flying. At 1600 hours several others were taken in the air. About two hours later a small swarm began and covered an area of about 50 sq. metres. By 1820 hours the swarm had reached its maximum and numbered about 5,000 ants. A random sample of 175 specimens showed 93% to be males, which is the normal ratio. At Roundstone, Connemara, Ireland, the percentage of males in mixed swarm of several millions was 90% (the species involved were *M. rubra*, *M. laevinodis* and *M. scabrinodis*, (O'Rourke, 1946)). At Castlekelly, Co. Dublin, Ireland, the percentage of males was 94.6% in a mixed *M. rubra* — *M. laevinodis* — *M. scabrinodis* swarm (O'Rourke, 1949). The following data on the meteorological conditions in the area were supplied by Messrs. Sigurd W. Hansen and Sverre Johansen of the Vervarslinga for Nord-Norge at Tromsø. The meteorological station is situated at Ankenes, 3—4 km from the town, and barometric pressure and humidity were estimated as follows: Barometric pressure (reduced to mean sea-level) on 16th 1012 mb. rising to nearly 1013, falling evenly on the 17th to 1010 in the afternoon and rising again to 1014 on the afternoon of the 18th.

On the 19th, there was a slow fall from 1012 mb. at 1300 hours to 1011 at 1800. The temperature was 15.8° C at 1300 and 13.7° C at 1800 hours on the 19th, and the relative humidity was about 70%.

The behaviour of the males was very interesting. They flew up only a metre or two in the air and then landed again, unless carried away by a puff of wind. They were also seen copulating with females which were already dēalated.

A colony of this species was found in a stage 4 log. This stage has been defined by Talbot (1934) as that stage at which both sapwood and heartwood have become softened. It is thus a relatively hygrophilic ant, as in Ireland where it is more hygrophilic than is *M. laevinodis* (O'Rourke, 1949 A).

This ant has not previously been recorded from Nnø, although it is known from the other three divisions of Nordland. It has been recorded as far north as Hammerfest 70° 40' N, which is the most northerly locality yet recorded for ants. Winged forms have been taken in Northern Norway from August 13th—22nd (Holgersen, 1942).

A single lepidopterous larva was taken in a colony of this species. Mr. W. H. T. Tams, of the British Museum, who kindly examined the specimen says that it is closely related to the Lithosiid moth, *Endrosis irorella*, but that it may be a new species.

*Myrmica laevinodis* Nyl.

A single winged female of this species was taken in the sample of the swarm recorded above. It is possible that some of the males in that swarm should also be referred to this species. In my experience, however, it is very difficult to differentiate with certainty the males of these closely allied species.

This ant has not previously been recorded from Nordland, but the record supports that of Esmark who took a winged female and three workers farther north at Polmak, Finnmark. This is a useful confirmatory record, as Holgersen (1942) threw some doubt on the validity of Esmark's record.

*Myrmica sulcinodis* Nyl.

A single worker was seen foraging and a dēalated female was found, together with *M. rubra*, under a small stone.

This ant has not previously been recorded from Nnø, although it occurs in the Nsy and Nnv divisions of Nordland.

The scape of the antennae is rather more abruptly bent than is usual in this species, and thus these specimens resemble those taken at Melbu, Nnv, by Munster (Holgersen, 1942). I do not believe, however, that they merit varietal status as Forel's variety *sulcinodo*—*scabrinodis*.

*Leptothorax acervorum* F. var. *nigrescens*. Ruzsky.

Colonies of this ant were three or four times as frequent as those of *M. rubra*, thus supporting Holgersens (1942) statement that it is probably the commonest ant in Northern Norway. All the colonies examined contained larvae of all sizes, but neither pupae or winged forms. No colony examined was parasitized by *Harpagoxenus sublaevis* Nyl., which was so common among similar colonies at Abisko in Swedish Lapland.

In a random sample from one nest the worker-female ratio was 36 to 1, which is greater than the ratio among typical *acervorum* in Ireland.

Apart from the callows, all the specimens had black bases to the epinotal spines, with blackish epinota and large black spots on the middle half of the femora. They should therefore be referred to the variety *nigrescens*, which is, I think, quite distinct from typical *acervorum* as seen in Great Britain and Ireland. This species was found previously by Soot-Ryen in Nnø at Slovaer, Folla.

*Formica rufa* L.

Some very typical specimens were taken, but the majority could be referred to the variety *F. rufa pratensoides* Forel. They showed a few very short hairs on the eyes, and some hairs on the prothorax. The black mark on the prothorax usually reached its posterior border. This variety has not previously been recorded from Nnø; Dahl, Munster and Natvig have already taken similar specimens in Nordland (Holgersen, 1943). Colonies were as frequent as those of *M. rubra* although, since they are more populous, about twice as many workers of this ant were to be seen foraging a given area, as there were *M. rubra*.

*Formica fusca* L.

Colonies of this species were outnumbered by two to one by those of the *F. rufa* complex. Those examined contained only pupae and no larvae. This ant has already been recorded for all the divisions of Nordland (Holgersen, 1942).

By far the most interesting observation made in Narvik was that the only males of this species seen were two taken on the wing, both of which proved to have dentate mandibles. This condition of dentate mandibles in the male was described by Stelfox (1927) and Donisthorpe (1927), and is characteristic of Irish *fusca*. Hitherto in Europe, it has only been found in Irish specimens, and was so striking that I recently suggested that the Irish *fusca* might be regarded as a special race (O'Rourke, 1949). In view of the finding of these two specimens at Narvik, this opinion will probably have to be revised. Wheeler (1913), however, stated that *fusca* males are often denticulate. It is

possible that this form evolved in the western unglaciated land, and spread north to Norway and south to Ireland during the recession of the ice. It is clear that this problem requires further study, and I would be glad to received specimens of male *fusca* for comparative purposes.

*Conclusions:* It was possible in a few hours at Narvik to collect, in a very small area, five of the fifteen species of ants known to occur in Northern Norway, and although *Harpagoxenus sublaevis* Nyl. and *Formica gagatoides* Ruzsky were specially looked for they were not found. Nevertheless, it is clear that there are probably a number of other species to be found in this area which clearly merits further study.

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